OPERATION AND SUPPORT COSTS FOR THE DEPARTMENT OF DEFENSE

The Congress of the United States
Congressional Budget Office

NOTES

Unless otherwise stated, all years referred to in this study are fiscal years.

Details in the text, tables, and figures may not add to totals because of rounding.

All costs are expressed in constant dollars of budget authority, using the Administration's fiscal year 1988 economic assumptions, unless otherwise noted.

Growth in funding described in the study is real growth, adjusted for inflation, unless otherwise noted.

PREFACE

Roughly half of the budget for the Department of Defense pays for annual operation and support (O&S) costs including payments for salaries, fuel, maintenance, and many other types of recurring expenses. O&S spending is often associated with the maintenance of military readiness. Readiness is defined as the ability of U.S. armed forces to fight well early in a war, a capability that could be critical to success in a major conflict.

Each year, the Congress must decide how much funding to allocate for O&S activities. Some Members of Congress have expressed concern that, with defense spending limited because of high deficits and other problems, future O&S funding might not be adequate since these funds must compete with investment funds that pay for high-priority military weapons. This analysis by the Congressional Budget Office (CBO) uses several methods to estimate how much O&S funding could be required to pay for weapons that have already been bought or will be purchased under current investment plans. The study also explores how indicators of military readiness compare with previous funding for O&S activities and how the Congress might hold down O&S costs. The study was requested by the House Budget Committee. In keeping with CBO's mandate to provide objective analysis, the study contains no recommendations.

Lane Pierrot of CBO's National Security Division prepared the study under the general supervision of Robert F. Hale and Neil M. Singer; preliminary estimates during earlier stages of the analysis were provided by Robert Kornfeld and Robert E. Mechanic. Michael Miller, of CBO's Budget Analysis Division, prepared descriptions of one of the models discussed in the study and Eugene Bryton, also of that division, provided several extensive cost estimates. The author gratefully acknowledges the contributions of Michael Berger, Bonita Dombey, William Kostak, Frances Lussier, David Moore, Jack Rodgers, Stephan Thurman, and R. William Thomas, all of CBO. Amanda Balestrieri edited the manuscript. Rebecca J. Kees, Nancy H. Brooks, and Kathryn Quattrone prepared the report for publication.

James L. Blum
Acting Director

July 1988

CONTENTS

TABLES

FIGURES

SUMMARY

Operation and support (O&S) funds--the portion of the Department of Defense (DoD) budget that pays to operate DoD's forces--have grown an average of about 2 percent per year from 1980 to 1988 in real (inflation-adjusted) terms. Real growth in these accounts was higher from 1980 to 1985, averaging 4 percent per year, but has fluctuated since then; funding actually declined in real terms in 1986 and 1988. In the next several years, if overall defense budgets are held constant or decline, there may be pressure to halt growth in funding for O&S activities and perhaps to repeat recent real reductions. This pressure may become particularly severe as DoD attempts to finance the many weapons programs that have entered development or procurement during the last eight years.

These trends raise concerns. As DoD fields new systems that are both more capable and more expensive, the costs of operating and supporting these systems may rise. If funding for O&S costs does not keep pace, there may be adverse effects on military readiness--defined as the ability of U.S. forces to fight well early in a war.

This study uses several approaches to estimate the amount of O&S funding that would be needed over the next five years if DoD carries out its current investment plans. The estimates suggest that O&S funds might at least have to remain constant in real terms and may have to increase. Because deficit concerns may force reductions in defense funding, possibly including O&S funding, this study also briefly discusses several broad strategies for holding down O&S costs.

OPERATION AND SUPPORT COSTS

The bulk of funding for O&S is contained in two sets of budget accounts--military personnel and operation and maintenance. Together, these accounts make up 55 percent of the 1988 defense budget. The military personnel accounts finance pay and allowances, benefits, and bonuses for active duty and reserve military personnel. The operation

SUMMARY

Operation and support (O&S) funds--the portion of the Department of Defense (DoD) budget that pays to operate DoD's forces--have grown an average of about 2 percent per year from 1980 to 1988 in real (inflation-adjusted) terms. Real growth in these accounts was higher from 1980 to 1985, averaging 4 percent per year, but has fluctuated since then; funding actually declined in real terms in 1986 and 1988. In the next several years, if overall defense budgets are held constant or decline, there may be pressure to halt growth in funding for O&S activities and perhaps to repeat recent real reductions. This pressure may become particularly severe as DoD attempts to finance the many weapons programs that have entered development or procurement during the last eight years.

These trends raise concerns. As DoD fields new systems that are both more capable and more expensive, the costs of operating and supporting these systems may rise. If funding for O&S costs does not keep pace, there may be adverse effects on military readiness--defined as the ability of U.S. forces to fight well early in a war.

This study uses several approaches to estimate the amount of O&S funding that would be needed over the next five years if DoD carries out its current investment plans. The estimates suggest that O&S funds might at least have to remain constant in real terms and may have to increase. Because deficit concerns may force reductions in defense funding, possibly including O&S funding, this study also briefly discusses several broad strategies for holding down O&S costs.

OPERATION AND SUPPORT COSTS

The bulk of funding for O&S is contained in two sets of budget accounts--military personnel and operation and maintenance. Together, these accounts make up 55 percent of the 1988 defense budget. The military personnel accounts finance pay and allowances, benefits, and bonuses for active duty and reserve military personnel. The operation

and maintenance accounts pay for most of the rest of DoD's day-to-day operating costs, reflecting a diverse mix of activities ranging from purchases of fuel to payments for the provision of medical care. This study also includes as part of O&S funding the operating portion of the family housing accounts.

The O&S accounts are frequently referred to as the military readiness accounts. Being ready to fight well early in a war requires forces that are well manned and trained--activities that are financed with O&S dollars. Direct links between indicators of military readiness and O&S funding do not exist, however. Readiness is hard to measure because it depends on many factors including the quality and quantity of personnel, equipment, and training. Nor is it easy to relate dollars spent on O&S to changes in measures of readiness.

ESTIMATES OF O&S COSTS

What will be the requirements for O&S funds if DoD carries out its current investment plans? Because no direct links exist between O&S funds and readiness, estimates of needed O&S funding are based on past patterns of spending. There are many techniques to estimate O&S funds required by individual services, but few apply to total DoD funding. The findings presented in this study are based on two models that deal with total O&S funding as well as on the Administration's latest budget proposal.

The Defense Resources Model

The Defense Resources Model (DRM) was developed in the late 1970s for the Congressional Budget Office (CBO) and bases its projections on current (or recent) O&S funding. It projects alterations in O&S funds if the number of major forces changes: Army divisions, Navy and Air Force combat aircraft wings, and Navy ships. About 35 percent of total O&S costs are estimated directly by the DRM based on the number of major forces. A further 25 percent of total O&S costs are related indirectly to the number of forces, using various estimating relationships. The remaining 40 percent of O&S costs are assumed not to vary with changes in the number of forces.

Given current Administration plans for forces, the DRM projects that a constant level of real O&S funding over the next five years would meet requirements. Growth in the O&S costs associated with those major forces that are increasing (for example, Navy ships) is offset by savings associated with major forces that are decreasing (for example, Air Force air wings), resulting in projections of virtually zero real growth.

Because it relates O&S costs to an important determinant of military capability--the number of major forces--the DRM provides a useful estimate of O&S costs. But some expensive new weapons that do not actually increase the number of forces may nonetheless have increased operating costs. Thus, an additional approach to estimating O&S costs was used in this study.

The Capital Stock Model

The Capital Stock Model (CSM), recently developed by CBO, assumes that O&S costs are related to the dollar value of the stock of equipment operated. Some O&S costs (those for spare parts, for example) might intuitively be expected to vary with the value of a weapon; others (such as costs for medical care or administration) might plausibly be stable despite changes in weapon values. Nonetheless, empirical evidence suggests that a relationship exists between total O&S costs and the value of the capital stock.

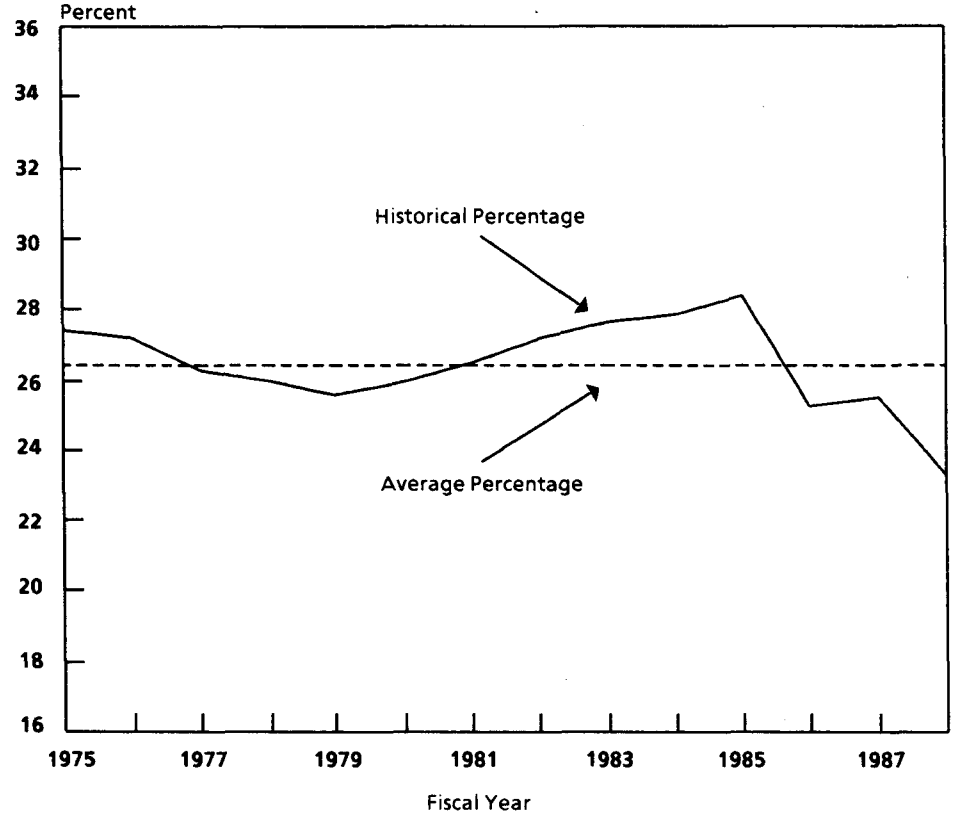
CBO's analysis calculated the ratio of real O&S costs to the constant dollar value of DoD's inventory of major weapons (such as planes, tanks, and ships). The analysis concluded that, between 1975 and 1988, the ratio (expressed as a percentage) varied within a relatively narrow band--from a high of 28 percent in 1985 to a low of 23 percent in 1988 (see Summary Figure 1). The ratio was reasonably constant over the period despite substantial changes in the total value of major weapons.

If these historical patterns persist, O&S funding would have to grow over the next five years to meet requirements. Under current plans, the value of DoD's major weapons will increase about 3 percent per year in real terms over the next five years. The increase reflects the entry of new, expensive weapons into the DoD inventory and the

retirement of older, less expensive versions. The associated growth in O&S costs depends on assumptions about the precise relationship between stocks of weapons and O&S costs. But real growth would be at least 2.3 percent per year.

The implications of the capital stock approach differ substantially from those of the DRM. For example, the CSM would require that a total of at least $35 billion (in constant 1988 dollars) more be devoted to O&S funds over the next five years than would the DRM.

Summary Figure 1.
O&S Costs as a Percentage of Capital Value



SOURCE: Congressional Budget Office from Department of Defense historical data.

The capital stock model reflects changes in DoD's inventory of weapons that may be missed by models that estimate O&S costs based only on the number of major forces. It is also based on a relationship that has been reasonably stable for many years. On the other hand, the capital stock approach assumes that all costs vary with changes in the value of weapons, even though some might be expected to be fixed or vary with factors other than capital stock. Thus, this study uses the capital stock approach along with the DRM and Administration estimates to identify a range of possible increases in O&S costs.

Administration Budget Proposal

In its latest budget, the Administration recommended increases in O&S costs averaging about 1 percent per year--roughly midway between the estimates derived using the DRM and the CSM. The Administration proposed larger increases in the operation and maintenance portion of O&S (about 2 percent per year) and almost no increase in funding for military personnel. Administration budget proposals for O&S funds are based on estimates that are reviewed and modified during DoD's complex budget review process. Thus, these estimates reflect budget limitations and many other factors in addition to judgments about needs for O&S funds.

CONCLUSIONS ABOUT FUTURE O&S COSTS

As the discussion above suggests, each of the approaches used to estimate O&S costs provides useful information but also has limitations in its methodology. Nor are such limitations the only source of uncertainty. All the techniques base their estimates on current Administration plans for the number and type of weapons. Those current plans reflect changes in the number of forces recently proposed by the Administration (including elimination of almost three Air Force air wings, 16 Navy ships, and selected Army units). But the approaches cannot anticipate further changes that may be proposed by DoD next year in response to the lower growth expected in future DoD budget requests. Nor can projections reflect changes that the Congress might make in DoD requests.

Given these limitations and uncertainties, conclusions should be drawn with caution. Perhaps the most that should be concluded is that, given historical patterns of funding and what is currently known about future plans, it will be difficult to reduce real O&S funding substantially below current levels. Indeed, there may be pressure for real increases of a few percent per year.

HOLDING DOWN O&S COSTS

Faced with concerns about the federal deficit that could result in reduced defense budgets, along with pressure for constant or even increasing O&S budgets, the Administration and the Congress may wish to consider ways to hold down O&S costs. This study examines three broad strategies as examples of possible approaches.

Reducing the Number of Forces

As DoD modifies its budget to conform with likely fiscal realities, some further reduction in the number of forces could occur. These reductions would adversely affect U.S. military capability in ways that are not analyzed here. But the reduction would also reduce O&S requirements according to the DRM; since its estimates are based on the number of forces, that model would project that O&S funds could be reduced in real terms.

It would be more difficult, however, to make changes that cause declining O&S requirements according to the CSM. Analysis in this study shows that--because capital stocks have been built up over many years--only far-reaching changes in planned procurements, or in retirements of older forces, would cause a reduction in the DoD capital stock and hence declining O&S requirements using the capital stock approach. Thus, holding down O&S costs through reductions in the number of forces would be difficult to the extent that capital stock determines needs for O&S funds.

Achieving Efficiencies

DoD could hold down O&S costs if it could deliver O&S support more efficiently. Neither of the models used in this study explicitly accounts for changes in efficiency, nor does this study attempt to identify specific efficiencies. Greater efficiency in O&S funding is attractive because it avoids the dilemma of choosing between higher costs and the risk of harming military readiness. But efficiencies are also contentious. In the past, some Members of Congress have claimed that substantial O&S funding reductions could be achieved through efficiencies while others have argued that substantial cuts risk harming military readiness.

Accepting Readiness Risks

Finally, the Congress or the Administration could simply reduce O&S funding without achieving clearly identified efficiencies or cutting the number of forces to be supported. Such changes would risk degrading the readiness of military forces. O&S funds are certainly related to military readiness; they pay for training and other activities that obviously affect the military's capability to fight well early in a war. But analysts have been unable to establish quantitative links between funding for O&S activities and measures of military readiness. Thus, analysis cannot confidently quantify the amount of risk associated with reductions in O&S funding.

CHAPTER I

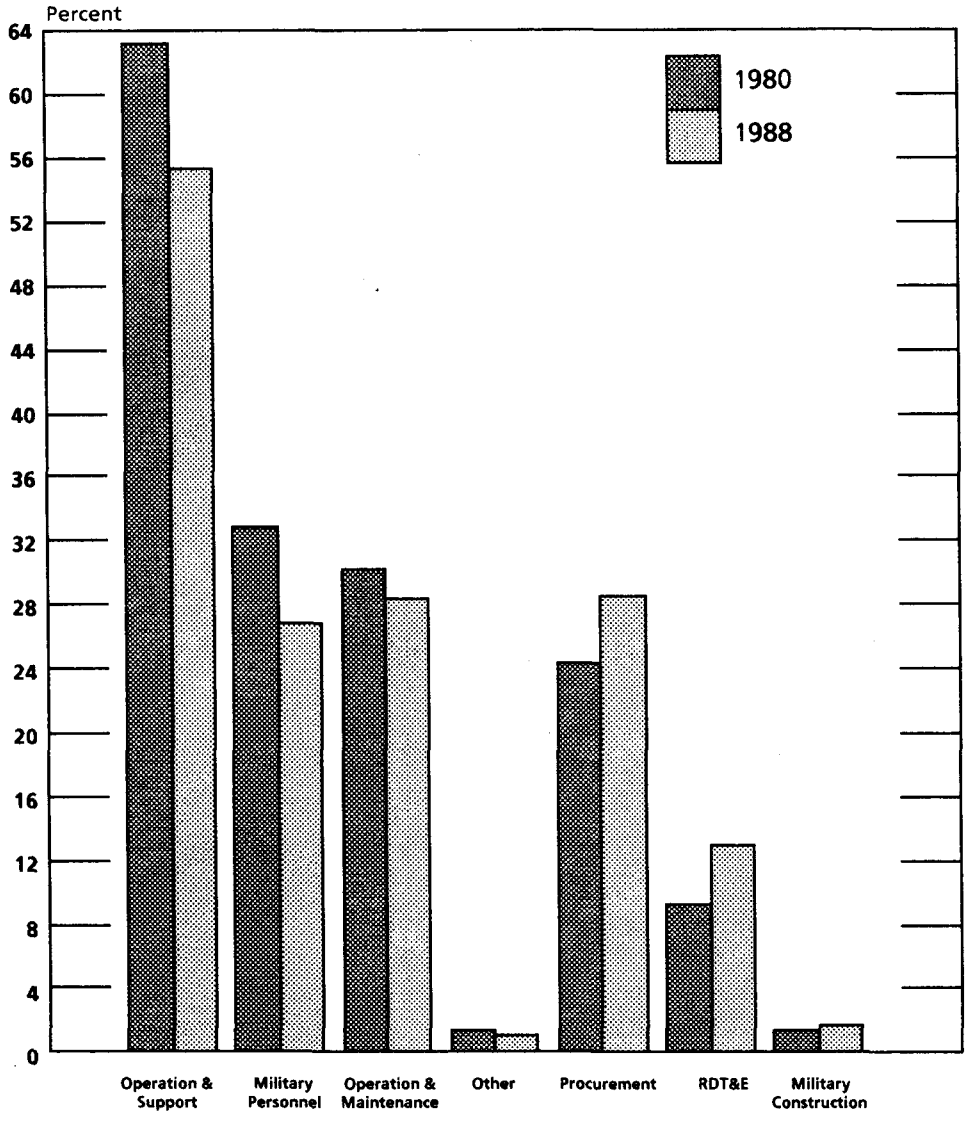
INTRODUCTION

Over the last eight years, the Administration has spent about $960 billion for the development and procurement of new weapons systems. The funds in these "investment" accounts have grown from about $69 billion in 1980 to about $118 billion in 1988, an average real rate of growth of about 7 percent per year. During this time, the portion of the budget that goes toward operating, manning, and supporting these systems--sometimes referred to as operating funds or the cost of operation and support (O&S)--has also grown, though more slowly. Total Department of Defense (DoD) spending for the two major O&S accounts--military personnel and operation and maintenance--has risen from about $130 billion in 1980 to about $155 billion in 1988, an average real rate of growth equal to about 2 percent per year. This slower growth has reduced the share of the defense budget devoted to O&S from 63 percent in 1980 to about 55 percent in 1988. (See Figure 1 for funding shares.)

These trends raise concerns. Operating funds need not necessarily grow proportionally with investment. But the large growth in investment means that new weapons are entering the military forces, which could drive up needs for O&S funds in the next few years. Large growth in investment also suggests that the military services have committed themselves to extensive programs of modernization that will expand and alter their stocks of equipment in the future; O&S needs may therefore continue to increase. Pressures for increased O&S funds could be held down or avoided altogether if new weapons have been successfully designed to minimize operating costs or if the military becomes more efficient in its delivery of operating services. If needs for O&S funds rise, however, the increase would come at a time when the total DoD budget may be restricted in its growth, suggesting that O&S needs may not be met.

Unplanned increases in O&S funding could exert pressure for decreases in investment funding. An analysis of the dynamics of bud-

Figure 1.
Department of Defense Budget Shares by Account



SOURCE: Congressional Budget Office from Department of Defense budget estimates.

NOTE: RDT&E = research, development, test, and evaluation.

get increases and cuts on operating and investment funds--presented in a 1987 article--suggests that in a constrained budget environment, increases in O&S funds can be linked to sizable decreases in investment funding.[1] The analysis presents data collected by comparing actual funding for the operating and investment portions of the budget with the previous years' plans. In times of austere budgets, a consistent underestimation of O&S costs by about 2 percent for the period from 1974 to 1980 contributed to unplanned declines in investment funding of about 14 percent in comparison with the previous year's expectations. In years of more generous budgets, O&S expenditures were also underestimated, but by less than the underestimation of the total budget. Hence, the additional money that was available in the overall budget could be spent on investment, which received its share plus some of that associated with O&S. The article argues that this is an unsurprising outcome; operating costs are relatively uncontrollable in the short term because existing forces demand a certain level of support.

Decreases in O&S funding could also be serious because they are associated with military readiness, which is defined as the ability of U.S. forces to fight well early in a war. Readiness is considered crucial by many military analysts, since it determines how well active forces could respond to surprise attacks, and how rapidly reserve forces would be available to augment them. It is enhanced if forces are fully equipped, manned, and trained in peacetime, and O&S spending influences manning and training. Direct relationships between O&S spending and readiness have not, however, been fully identified. Thus, it is difficult to predict the effects that shortfalls in O&S funds will have on readiness.

The desirable level of O&S spending, and the implications of that spending for military readiness, have been contentious topics for years. That debate is likely to continue, especially as the high investment spending of the early 1980s alters DoD's stock of weapons at the same time that concerns about the deficit hold down increases in total DoD spending. At issue is the question of how much of DoD's total budget must be devoted to O&S funding if the defense department continues its current plans for investment in weapons. This study

1. Rolf Clark, "Defense Budget Instability and Weapon System Acquisition," *Public Budgeting and Finance*, vol. 7 (Summer 1987), pp. 24-36.